

## **FACT SHEET FOR NPDES PERMIT WA-003105-4**

### **Foss Maritime Company**

This fact sheet is a companion document to the draft National Pollutant Discharge Elimination System (NPDES) Permit No. WA-003105-4. The Department of Ecology (the Department) is proposing to reissue this permit, which will allow discharge of drydock flood water and stormwater to waters of the state of Washington.

This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical basis for those decisions. Public involvement information is contained in Appendix A. Definitions are included in Appendix B.

### **GENERAL INFORMATION**

|                              |  |
|------------------------------|--|
| <u>Applicant:</u>            | Foss Maritime Company  |
| <u>Facility and Address:</u> | 660 West Ewing Street<br>Seattle, WA 98119-1587  |
| <u>Type of Facility:</u>     | Ship repair  |
| <u>Discharge Location:</u>   | Lake Washington Ship Canal<br>Lake Class<br><br>Latitude: 47° 39' 15" N<br>Longitude: 122° 22' 00" W |
| <u>Water Body ID Number:</u> | WA-08-9340   |
| <u>SIC Code:</u>             | 3731   |

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## INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has delegated responsibility to administer the NPDES permit program to the State of Washington on the basis of Chapter 90.48 RCW which defines the Department of Ecology's authority and obligations in administering the Wastewater Discharge Permit Program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC) and water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty (30) days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the public notice procedures).

This fact sheet has been reviewed by the Permittee and errors in fact have been corrected. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments (Appendix D) will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. Changes to the permit and fact sheet will be addressed in Appendix D--Response to Comments.



**Figure 1. Vicinity Map – Foss Maritime Company**

## **BACKGROUND INFORMATION**

### ***DESCRIPTION OF THE FACILITY***

Foss Maritime Company operates a ship repair facility located on the Lake Washington Ship Canal in Seattle, Washington (Figure 1).

Services are provided to approximately 150 to 200 vessels a year, including tugs, fishing vessels, barges, and factory ships. The hulls of these vessels are constructed of steel, wood, aluminum, or fiberglass. Ship repair services include electrical and machine work, carpentry, steel fabrication, pipe-fitting, painting, sandblasting, and pressure washing.

The shipyard operates two drydocks and one Foss 300 floating derrick crane (Figure 2 on page 19).

Drydock #1, a steel drydock, is 200 feet long and 46 feet wide, and can hold vessels of up to 1,000 tons. Drydock #2, a wooden drydock, is 200 feet long and 48 feet wide, and can hold vessels of up to 1,000 tons. The crane is capable of lifting 75 tons.

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Both of the drydocks have been updated to provide containment for pressure wash wastewater. Waste water flows to one end of the drydock, where it is captured in a collection sump and pumped on-shore to a pretreatment system prior to discharge to the King County (METRO) sanitary sewer.

In 2000, Foss Maritime Company closed all of the ten stormwater outfalls which discharged to the Lake Washington Ship Canal. All storm water on-site is collected and treated prior to discharge to King County Sanitary Sewer System.

Foss Maritime Company used 111.5 tons of sandblast grit from October 1995 to October 1996. Approximately 20% of the vessels hauled out require partial or complete hull sandblasting, accounting for 80% of the grit used. About 10% of the grit is used in the sandblast shed on shore. The remaining 10% is used in ship holds and ship superstructures. Spent grit is removed from the drydocks prior to launching a vessel. Spent grit is stored in a covered storage area prior to being hauled to Holnam Cement for reuse in the manufacture of cement.

About 80% of the vessels hauled out require pressure washing. Pressure wash wastewater is generated at a rate of 300 to 500 gallons per vessel for fishing vessels, and much larger amounts for larger vessels. The pressure wash wastewater is collected in sumps on the drydock and pretreated with a chemical flocculation system with a filter press, prior to discharge to King County WWTP.

In addition to pressure wash wastewater and stormwater, another type of shipyard discharge is drydock flood water. Drydock flood water is discharged when work is completed on a vessel and the drydock is flooded in order to float the vessel off of the drydock. Materials that may have accumulated on the floor of the drydock, such as spent abrasive grit, oil, paints and solvents, are potential pollution sources to the receiving water. Best management practices (BMPs) must be used prior to flooding to prevent contamination of the receiving water.

***PERMIT STATUS***

The previous permit for this facility was issued on April 17, 1997, with an expiration date of December 17, 1999. The previous permit placed effluent limitations on oil and grease, turbidity, and pH for drydock flood water. The permit was administratively extended. An application for permit renewal was submitted to the Department on October 16, 2001, and accepted by the Department on April 8, 2002.

The permit also prohibited the direct discharge of hydroblast wastewater to waters of the state.

***SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT***

The facility received its last inspection on November 30, 2004. During the history of the previous permit, the Permittee experienced compliance problems related to total suspended solids (TSS), turbidity, and oil & grease. Those violations are as follows:

**Table 1: Previous Permit Effluent Violations**

| Parameter                           | Outfall | Month of Violation | Measured Effluent (Maximum) | Effluent Limitations (Maximum) |
|-------------------------------------|---------|--------------------|-----------------------------|--------------------------------|
| TSS                                 | 005     | April 1997         | 430 mg/L                    | 169 mg/L                       |
| “                                   | 005     | November 1997      | 370 mg/L                    | 169 mg/L                       |
| “                                   | 005     | December 1997      | 1300 mg/L                   | 169 mg/L                       |
| “                                   | 005     | January 1998       | 490 mg/L                    | 169 mg/L                       |
| “                                   | 005     | February 1998      | 270 mg/L                    | 169 mg/L                       |
| “                                   | 005     | June 1998          | 440 mg/L                    | 169 mg/L                       |
| “                                   | 005     | February 1999      | 320 mg/L                    | 169 mg/L                       |
| “                                   | 005     | March 1999         | 440 mg/L                    | 169 mg/L                       |
| “                                   | 005     | May 1999           | 340 mg/L                    | 169 mg/L                       |
| “                                   | 005     | September 1999     | 220 mg/L                    | 169 mg/L                       |
| TSS                                 | 010     | December 1997      | 960 mg/L                    | 169 mg/L                       |
| “                                   | 010     | April 1998         | 180 mg/L                    | 169 mg/L                       |
| “                                   | 010     | January 1999       | 290 mg/L                    | 169 mg/L                       |
| “                                   | 010     | May 1999           | 180 mg/L                    | 169 mg/L                       |
| TSS                                 | 012     | December 1997      | 240 mg/L                    | 169 mg/L                       |
| “                                   | 012     | January 1998       | 200 mg/L                    | 169 mg/L                       |
| Turbidity, increase over background | 005     | April 1997         | 198.5 NTU                   | 5 NTU                          |
| Turbidity, increase over background | 010     | April 1997         | 84.5 NTU                    | 5 NTU                          |
| Turbidity, increase over background | 012     | April 1997         | 46.5 NTU                    | 5 NTU                          |
| Turbidity, increase over background | DD2     | March 1998         | 9.8 NTU                     | 5 NTU                          |
| “                                   | DD2     | December 1998      | 5.2 NTU                     | 5 NTU                          |
| Turbidity, increase over background | DD1     | April 2003         | 5.6 NTU                     | 5 NTU                          |
| Oil & grease                        | 005     | May 1997           | 22 mg/L                     | 15 mg/L                        |
| “                                   | 005     | December 1997      | 27 mg/L                     | 15 mg/L                        |
| “                                   | 005     | January 1998       | 26 mg/L                     | 15 mg/L                        |
| “                                   | 005     | February 1998      | 18 mg/L                     | 15 mg/L                        |
| Oil & grease                        | 010     | December 1997      | 55 mg/L                     | 15 mg/L                        |
| “                                   | 010     | January 1998       | 23 mg/L                     | 15 mg/L                        |
| “                                   | 010     | July 1998          | 21 mg/L                     | 15 mg/L                        |
| “                                   | 010     | October 1998       | 26 mg/L                     | 15 mg/L                        |
| “                                   | 010     | January 1999       | 16 mg/L                     | 15 mg/L                        |
| “                                   | 010     | February 1999      | 22 mg/L                     | 15 mg/L                        |
| “                                   | 010     | May 1999           | 17.8 mg/L                   | 15 mg/L                        |

The facility has closed all stormwater outfalls during the year of 2000, and made connection to discharge pretreated stormwater to King County WWTP. The only violation which occurred after this point was the turbidity violation reported in April 2003 as shown above.

### **WASTEWATER CHARACTERIZATION**

The following wastewater characteristics were summarized from the discharge monitoring report data submitted between the period of April 1997 and January 2005.

**Table 2: Drydock Flood Water**

| Parameter    | Outfall  | Average Concentration | Concentration Range |
|--------------|----------|-----------------------|---------------------|
| Oil & grease | DD1, DD2 | Not detected          | Not detected        |
| Turbidity    | DD1      | 1.1 NTU               | 0.1 – 5.6 NTU       |
| Turbidity    | DD2      | 1.2 NTU               | 0.29 – 9.8 NTU      |

### **PROPOSED PERMIT LIMITATIONS AND CONDITIONS**

Federal and state regulations require that effluent limitations set forth in an NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific wastewater. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC).

Water quality-based limitations are based upon compliance with the surface water quality standards (Chapter 173-201A WAC), ground water standards (Chapter 173-200 WAC), or sediment quality standards (Chapter 173-204 WAC). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

#### **TECHNOLOGY-BASED EFFLUENT LIMITATIONS**

To date, the United States Environmental Protection Agency (USEPA) has not promulgated effluent guidelines for the shipyard industry. However, the Draft Development Document for Proposed Effluent Limitations Guidelines for Shipbuilding and Repair (EPA 440/1-79/76b) identifies the following pollutant parameters as those which are discharged or have the potential to be discharged to a-receiving water:

Conventional pollutants: suspended and settleable solids, oil and grease, pH  
Priority pollutant metals: chromium, copper, lead, and zinc  
Other metals: tin

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The following technology-based effluent limitations are established for Foss Maritime Company:

Pressure Wash Wastewater--This permit prohibits the discharge of pressure wash wastewater to the Lake Washington Ship Canal. This determination is based on the 1992 METRO report that identifies a range of technologies that meet AKART for shipyard and boatyard pressure wash wastewater. Foss Maritime Company has containment and collection on the drydocks. This waste stream is pretreated and discharged to King County WWTP.

#### Stormwater

Since stormwater on-site is no longer discharged to surface water, it is discharged to King County WWTP beginning in the year of 2000. Therefore, no effluent limits have been set for storm water in this permit.

### ***SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS***

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established surface water quality standards. The Washington State surface water quality standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

#### **Numerical Criteria for the Protection of Aquatic Life**

"Numerical" water quality criteria are numerical values set forth in the State of Washington's water quality standards for surface waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a-receiving water while remaining protective of aquatic life. Numerical criteria set forth in the water quality standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

#### **Numerical Criteria for the Protection of Human Health**

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily based on fish and shellfish consumption, and drinking water from surface waters.



## **Narrative Criteria**

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the state of Washington.

## **Antidegradation**

The State of Washington's Antidegradation Policy requires that discharges into a-receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a-receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a-receiving water are of higher quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a degradation of existing water quality or beneficial uses.

## **Critical Conditions**

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic waterbody uses.

## **Mixing Zones**

The water quality standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for discharges that are receiving all known, available, and reasonable methods of prevention and control (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

### **Description of the Receiving Water**

Currently, drydock flood water from Foss Maritime Company is discharged to the Lake Washington Ship Canal, an urban waterway. The Lake Washington Ship Canal is designated as Lake Class in WAC 173-201A-130(58).

The Lake Washington Ship Canal adjoins Lake Union in the center of the city of Seattle. The extent and character of the Lake Washington/Lake Union system have been dramatically altered by human activity in the past 75 years. The 600-acre Lake Union receives water of relatively good quality from Lake Washington and discharges into Puget Sound through the industrialized Ship Canal and the Hiram Chittenden Locks. The Lake Union basin was originally carved by glaciers, and until about 85 years ago, when the Montlake Cut was constructed, Lake Union was isolated from Lake Washington and was fed solely by runoff and springs. The Fremont Cut (the east end of the Ship Canal, where Foss Maritime is located), the Locks and the Ship Canal were constructed at the same time as the Montlake Cut between Portage Bay and Lake Union, and expanded the area of fresh water to include Salmon Bay. The Army Corps of Engineers dredges the Ship Canal, controls the water level in the Lake Washington/Lake Union system, and monitors saltwater intrusion through the locks.

Characteristic uses include the following: water supply (domestic, industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; primary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation.

The Lake Washington Ship Canal and Lake Union are included on the 1996 EPA 303(d) list for exceeding sediment bioassay, polychlorinated biphenyls (PCBs), and dieldrin criteria. A study published by the Department in 1992, "Survey of Contaminated Sediments in Lake Union and Adjoining Waters," and another study published in 1996, "Chemical Contaminants in Salmon Bay Sediments," identified widespread sediment contamination throughout the water body from PCBs, polycyclic aromatic hydrocarbons (PAHs), and heavy metals. Sediment contamination reflects deposition of pollutants to the bottom of the lake and canal since the early part of the century from a variety of historic and current industrial point sources as well as nonpoint sources.

### **Surface Water Quality Criteria**

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

No Visible Sheen - WAC 173-201A-030(5)(viii) requires that aesthetic values not be impaired by the presence of materials or their effects, excluding those of natural origin, which offend the sense of sight, smell, touch, or taste. The no visible sheen effluent limitation for drydock flood water is established to protect this water quality criterion.

Turbidity -- The turbidity limit is established to protect beneficial uses. Consistent with WAC 173-201A-030(5)(vi), turbidity shall not exceed 5 Nephelometric Turbidity Units (NTU) above the background turbidity for drydock flood water.

Toxic Pollutants -- Federal regulations (40 CFR 122.44) require NPDES permits to contain effluent limits for toxic chemicals whenever there is a reasonable potential for those chemicals to exceed water quality criteria. This process occurs concurrently with the derivation of technology-based effluent limits. Facilities with technology-based effluent limits are not exempt from meeting the water quality standards or from having water quality-based effluent limits. Wastewater treatment for metals removal at the low concentrations needed for compliance with the water quality criteria is difficult and expensive. Even after full implementation of BMPs, the stormwater discharge exceeds the water quality criteria for copper, lead, and zinc. After complete implementation of the technologies identified in the AKART report defined under Special Condition S4.A of the permit, a mixing zone may be authorized. Mixing zones are authorized in accordance with the geometric configuration and flow restriction for mixing zones given in Chapter 173-201A WAC.

The Permittee is also required to monitor for metals in the drydock flood water. The Department reserves the right to establish additional water quality-based effluent limitations for drydock flood water if it is determined that a potential to violate the water quality standards exists.

The methods employed to derive water quality-based limits will be consistent with those outlined in the Department of Ecology's Permit Writer's Manual (July 1994) and EPA's Technical Support Document for Water Quality-based Toxics Control (March 1991).

### **Whole Effluent Toxicity**

The water quality standards for surface waters require that the effluent not cause toxic effects in the receiving waters. Many toxic pollutants cannot be detected by commonly available detection methods. However, toxicity can be measured directly by exposing living organisms to the waste water in laboratory tests and measuring the response of the organisms. Toxicity tests measure the aggregate toxicity of the whole effluent, and therefore this approach is called whole effluent toxicity (WET) testing.

In accordance with WAC 173-205-040, the stormwater discharge has been determined to have the potential to contain toxic chemicals. The proposed permit would ordinarily contain requirements for whole effluent toxicity testing as authorized by RCW 90.48.520 and 40 CFR 122.44 and in accordance with procedures in Chapter 173-205 WAC. However, the Permittee is improving pollution control in order to meet other regulatory requirements. The results of an effluent characterization for toxicity would not be accurate until after the improvements have been completed.

WAC 173-205-030(4) allows the Department to delay effluent characterization for WET for existing facilities that are under a compliance schedule in a permit to implement technology-based controls or to achieve compliance with surface water quality-based effluent limits.

An effluent characterization for acute and chronic toxicity was conducted on drydock flood water during the previous permit term and toxicity was not detected. If the Permittee makes process or material changes which, in the Department's opinion, results in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the permit renewal. Toxicity is assumed to have increased if WET testing conducted for submission with a permit application fails to meet the performance standards in WAC 173-205-020, "whole effluent toxicity performance standard." The Permittee may demonstrate to the Department that changes have not increased effluent toxicity by performing additional WET testing after the time the process or material changes have been made.

### **Human Health**

The Department has determined that the Permittee's discharges do not contain chemicals of concern to human health based on existing data. The discharges will be reevaluated for impacts to human health at the next permit reissuance.

### **Sediment Quality**

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400). Foss Maritime Company completed a sediment monitoring study in 1995. The report is under review by the Department's Sediment Management Unit. Any additional sediment requirements that must be completed before the end of this permit cycle will be pursued through an administrative order.

### ***GROUND WATER QUALITY LIMITATIONS***

The Department has promulgated ground water quality standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

## **MONITORING AND REPORTING**

Effluent monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring and testing schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

### ***STORMWATER POLLUTION PREVENTION PLAN***

Special Condition S5 requires the Permittee to submit an update to the existing Stormwater Pollution Prevention Plan (SWPPP) with the permit reapplication. The existing SWPPP was last updated in March 1995.

### ***SPILL PLAN***

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management practices plans to prevent this accidental release under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department within twelve months of the permit issuance date.

### ***BEST MANAGEMENT PRACTICES (BMPs)***

BMPs to collect, contain wastes and minimize waste generation during vessel repair and maintenance work have been researched, compiled and distributed in Washington by the Department, the Lake Union Association, and the Puget Sound Shipbuilders Association. These BMPs are similar to the BMPs published by the state of Virginia for its shipyard industry, and have been requested and used by other states and organizations, such as the U.S. Navy's National Shipbuilding Research Program, in the development of their own guidelines. This permit defines minimum functional BMPs and requires Foss Maritime Company to implement them.

### ***GENERAL CONDITIONS***

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual NPDES permits issued by the Department.

## **PERMIT ISSUANCE PROCEDURES**

### ***PERMIT MODIFICATIONS***

The Department may modify this permit to impose numerical limitations, if necessary, to meet water quality standards for surface waters, sediment quality standards, or water quality standards for ground waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

### **RECOMMENDATION FOR PERMIT ISSUANCE**

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the state of Washington. The Department proposes that this permit be issued for five (5) years, in conformance with the permit issuing year for the Green/Duwamish/Cedar Water Quality Management Area.

### **REVIEW BY THE PERMITTEE**

A proposed permit and fact sheet were reviewed by the Permittee for verification of facts. Only factual items were corrected in the draft permit and fact sheet.

### **REFERENCES FOR TEXT AND APPENDICES**

Bengston, et al.

1989. Draft Best Management Practices Manual for the Shipbuilding and Repair Industry, Commonwealth of Virginia, Virginia Water Pollution Control Board.

Discharge Monitoring Reports (DMRs)

1997-January 2005, DMR data submitted to the Department by Foss Maritime Company.

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

1979. Draft Development Document for Shipbuilding and Repair, EPA 440/1-79/076b.

Municipality of Metropolitan Seattle (METRO)

1992 Maritime Industrial Waste Project - Reduction of Toxicant Pollution from the Maritime Industry in Puget Sound.

Permit Application

2001, the permit applications, EPA Form 1 and 2C were submitted to the Department on October 16, 2001.

Puget Sound Shipbuilders Association

1990. Best Management Practices for the Shipbuilding and Repair Industry, Seattle.

Washington Department of Ecology

2001. Stormwater Management Manual for Western Washington, Water Quality Program, Lacey.

2004. NPDES Permit Writer's Manual, Water Quality Program, Lacey, last updated December 2004.

## **APPENDIX A—PUBLIC INVOLVEMENT INFORMATION**

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on September 4 and 11, 2004, in the *Seattle Times* and the *Seattle Post-Intelligencer* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department published a Public Notice of Draft (PNOD) in the *Seattle Times* and the *Seattle Post-Intelligencer* on July 19, 2005, to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator  
Department of Ecology  
Northwest Regional Office  
3190 160th Avenue SE  
Bellevue, Washington 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (425) 649-7201, or by writing to the address listed above.

## APPENDIX B—GLOSSARY

**Acute Toxicity**--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

**Ambient Water Quality**--The existing environmental condition of the water in a-receiving water body.

**Best Management Practices (BMPs)**--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

**Bypass**--The intentional diversion of waste streams from any portion of a treatment facility.

**Chronic Toxicity**--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

**Clean Water Act (CWA)**--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

**Composite Sample**--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

**Critical Condition**--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

**Daily Maximum Discharge Limitation**--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

**Dilution Factor**--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction.



**Engineering Report**--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

**Grab Sample**--A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

**Industrial Wastewater**--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated stormwater and, also, leachate from solid waste facilities.

**Mixing Zone**--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

**Monthly Average**--The average of the measured values obtained over a calendar month's time.

**National Pollutant Discharge Elimination System (NPDES)**--The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

**pH**--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

**Technology-based Effluent Limit**--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

**Total Suspended Solids (TSS)**--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a-receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

**State Waters**--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

**Stormwater**--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

**Upset**--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable

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control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

**Water Quality-based Effluent Limit**--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a-receiving water.

APPENDIX C—SITE MAP

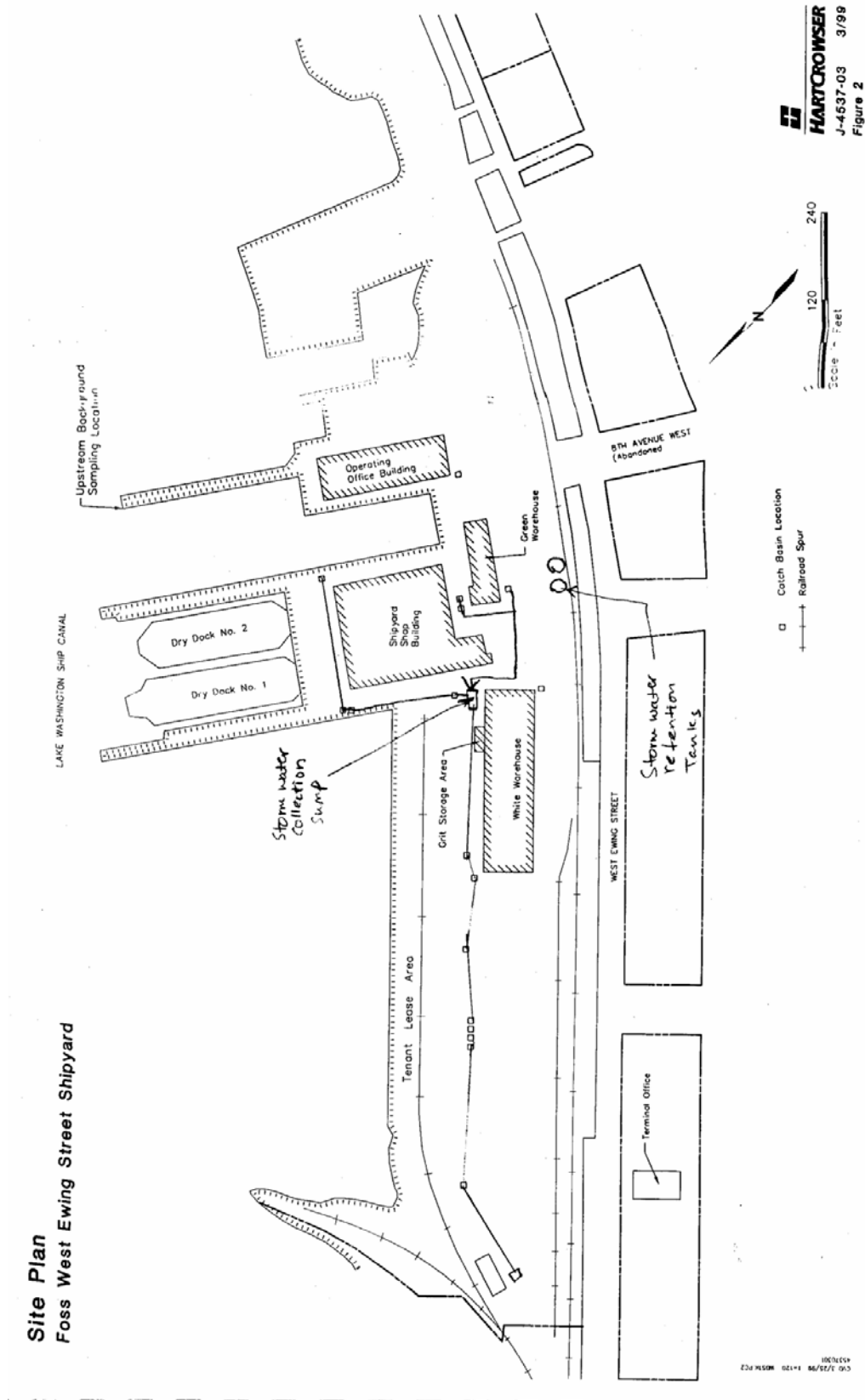


Figure 2.

**APPENDIX D—RESPONSE TO COMMENTS**